

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
21 October 2004 (21.10.2004)

PCT

(10) International Publication Number
WO 2004/089897 A1

(51) International Patent Classification⁷: C07D 209/46, A61K 31/454, A61P 25/24

(74) Agent: KONDO, Rie; GlaxoSmithKline, 980 Great West Road, Brentford, Middlesex TW8 9GS (GB).

(21) International Application Number:
PCT/EP2004/003678

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 5 April 2004 (05.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(30) Priority Data:
0308025.6 7 April 2003 (07.04.2003) GB

(71) Applicant (for all designated States except US): GLAXO GROUP LIMITED [GB/GB]; Glaxo Wellcome House, Berkeley Avenue, Greenford, Middlesex UB6 0NN (GB).

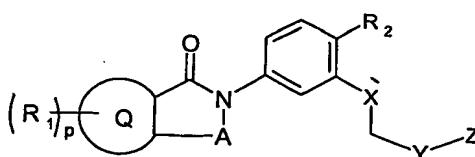
(72) Inventors; and

(75) Inventors/Applicants (for US only): BONANOMI, Giorgio [IT/IT]; GlaxoSmithKline, Via Alessandro Fleming 2, I-37135 Verona (IT). HAMPRECHT, Dieter [DE/IT]; GlaxoSmithKline, Via Alessandro Fleming 2, I-37135 Verona (IT). MICHELI, Fabrizio [IT/IT]; GlaxoSmithKline, Via Alessandro Fleming 2, I-37135 Verona (IT). TERRENI, Silvia [IT/IT]; GlaxoSmithKline, Via Alessandro Fleming 2, I-37135 Verona (IT).

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: COMPOUNDS HAVING ACTIVITY AT 5HT2C RECEPTOR AND USES THEREOF



(I)

(57) Abstract: Compounds of formula (I) and pharmaceutically acceptable salts thereof are disclosed: wherein R1 is halogen, cyano, C1-6alkyl, C3-7cycloalkyl, C3-7cycloalkyloxy, C1-6alkoxy, C1-6alkylthio, hydroxy, amino, mono or di C1-6alkylamino, an

N-linked 4 to 7 membered heterocyclic group, nitro, haloC1-6alkyl, haloC1-6alkoxy, aryl, -COOR3, -COR4 (wherein R3 and R4, are independently hydrogen or C1-6alkyl) or -COR5 (wherein R5 is amino, mono or di C1-6alkylamino or an N-linked 4 to 7 membered heterocyclic group); p is 0, 1 or 2 or 3; Q is a 6-membered aromatic group or a 6-membered heteroaromatic group; A is -(CH2-CH2)-, -(CH=CH)-, or a group -(CHR7)- wherein R7 is hydrogen, halogen, hydroxy, cyano, nitro, C1-6alkyl, C3-7cycloalkyl, C3-7cycloalkyloxy, haloC1-6alkyl, C1-6alkoxy, haloC1-6alkoxy, hydroxy, cyano, nitro, C1-6alkyl, C1-6alkylthio, amino, mono or di C1-6alkylamino or an N-linked 4 to 7 membered heterocyclic group; X is oxygen, sulfur, -CH2- or NR8 wherein R8 is hydrogen or C1-6alkyl; Y is a single bond, -CH2-, -(CH2)2- or -CH=CH-; and Z is an optionally substituted N-linked heterocyclic group or a C-linked 4 to 7 membered heterocyclic group containing at least one nitrogen, or Z is -NR9R10 where R9 and R10 are independently hydrogen or C1-6alkyl. Methods of preparation and uses thereof in therapy, such as for depression or anxiety, are also disclosed.

WO 2004/089897 A1